

A LIST OF THE KNOWN FORMS OF VOLUTIDÆ FROM SOUTH AFRICA, WITH DESCRIPTIONS OF TWO NEW SPECIES OF *VOLUTA* FROM NATAL.

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Read 10th May, 1901.

THE British Museum has recently acquired two very fine Volutes from Natal, one of which appears to belong to a new species, the other being a specimen, in fresh condition, of the rare *V. Africana*, of which only a few worn examples have hitherto been known, while a second new species has been kindly submitted to me for description by Mr. J. H. Ponsonby. Thinking that in connection with these new discoveries a list of the known Volutidæ from South Africa would be of interest, it has seemed advisable to give the following synopsis, incorporating therein the descriptions of the new species:—

1. *VOLUTA* (*ALCITHOE*) *FESTIVA*, Lamarek.

Voluta festiva, Lamarek: Anim. s. Vert., vol. vii, p. 347; 2nd ed., vol. x, p. 404. Kiener: Icon. Coq. Viv., p. 31, pl. xxii, fig. 2 (type, half-grown). Küster: Conch.-Cab., 2nd ed., p. 184, pl. xxxviii, fig. 4 (copy of Kiener). Sowerby: Thes. Conch., vol. i, p. 218, pl. lii, figs. 79–80, original, from Lamarek's type. Reeve: Conch. Icon., vol. vi, pl. xii, figs. 28a–c (28a adult, b and c young). Chenu: Man. Conch., fig. 960, after Reeve. Tryon: Man. Conch., vol. iv, p. 95, pl. xxx, fig. 125, after Reeve.

Hab.—South-east Africa, Natal coast (Sowerby).

Little need be added to the description of this species given by Reeve. The figure 28a conveys an excellent idea of a full-grown example, both as regards form and colour. It might be observed, however, that in two specimens in the Museum the ribs upon the upper whorls are *not* "obsolete next the sutures," and it is only upon the last and penultimate whorls that they become less conspicuous, or wanting at that part.

2. *VOLUTA* (*ALCITHOE*) *PONSONBYI*, n.sp.

Testa ovato-fusiformis, turrita, medioeriter solida, flavo-carnea, seriebus macularum sanguinearum quatuor transversis picta, zonis circiter decem angustis albidis transversim fusco lineatis ornata; anfractus septem, tres superiores (protoconcha), læves, carnei, convexi, apicem spiræ obtusum formantes, cæteri supra concavi, in medio angulati, infra costati, costis ad angulum acute coronatis, in anfractu ultimo inferne haud productis, transversim tenuiter sulcati et striati lineisque incrementi tenuissimis sculpti, ultimus antice ascendens, pone labrum longitudinaliter sulcatus et subcostulatus, versus basim fortiter oblique sulcatus; apertura carnea, albo suffusa,

longit. totius $\frac{2}{3}$ æquans; labrum incrassatum, rufo et albo maculatum, vix expansum; columella vix arcuata, lævis, callo albido supra ad insertionem incrassato induta, plicis obliquis sex (tribus superioribus fere obsoletis) instructa. Long. 57, diam. maj. 29 mm.; apertura 38 mm. longa, 13 lata.

Hab.—Ten miles off Durban, Natal, 40 fathoms.

This species is closely allied to *V. festiva*, Lamarek, which has also been recorded by Mr. G. B. Sowerby¹ from the coast of Natal. It differs, however, from that species in its smaller size, smaller and less globose protoconch, the greater concavity of the upper part of the whorls, the acute tubercular character of the costæ at the angle, the thickened labrum, and the absence of the characteristic black mark at the upper and lower ends of the columellar callosity. The columellar folds in *V. festiva* are about ten in number, of which the seven upper ones become gradually obsolete. In the present form, however, they are only six in number, three being scarcely observable. In *V. festiva* the longitudinal ribs are roundly nodose above and produced more or less distinctly to the base or anterior end of the body-whorl. On the other hand, in *V. Ponsonbyi* they are very acutely produced above, giving the whorls a very pretty coronated appearance, and upon the last whorl they merely take the form of very prominent tubercles, the rest of the surface being smooth and non-costate. These tubercles are ten to twelve in number, and marked near the top with a dark spot, and the costæ upon the penultimate and antepenultimate whorls are twelve or thirteen in number. The coloration of this very handsome shell is very different from that of *V. festiva*, the transverse pale zones, which are crossed by numerous curved irregular brown lines, being a very noticeable feature. In all the figures of *V. festiva* the protoconch is globose and papillary. In the present species it is much smaller, less globular, and consists of three instead of two whorls. It measures only 2.5 mm. in diameter, whereas in a specimen of *V. festiva* in the Museum collection the diameter is nearly 5 mm. With regard to the difference of size between this species and *V. festiva* it should be noted that it is not due to age, for the shell² now described is evidently mature, its adult condition being indicated by the thickened outer lip and the final ascent of the last upon the penultimate whorl.

I have much pleasure in naming this handsome species after Mr. J. H. Ponsonby, as a mark of appreciation of the service he has rendered in elucidating the shell fauna of South Africa.



Voluta Ponsonbyi, n.sp.

¹ "Marine Shells of South Africa," Appendix, p. 8.

² Since this description was written, a second beautiful specimen in Mr. E. R. Sykes' collection has been kindly shown to me, which is similar in every respect.

3. VOLUTA (ALCITHOE) AFRICANA, Reeve.

Voluta Africana, Reeve: Proc. Zool. Soc., 1856, p. 2, pl. xxxiii, figs 3, 4. Tryon: Man. Conch., vol. iv, p. 95, pl. xxx, fig. 127 (copy of Reeve). Sowerby: Thes. Conch., vol. v, p. 303, pl. dxvi, figs. 165, 166, original.

Hab.—East coast of Africa (Reeve); S.E. Africa (Sowerby); Port Elizabeth (Sowerby, "Marine Shells of S. Africa," p. 18); St. Johns, S. Africa (Capt. W. H. Turton Coll. in Brit. Mus.); Pondoland (Ponsonby Collection in Brit. Mus.); ten miles off Durban, in 40 fathoms.

A specimen from the last-mentioned locality, recently acquired by the British Museum, is in perfectly fresh condition and doubtless was obtained alive. In form it resembles fairly closely the type figured by Reeve, but differs in colour and in the smaller number of ribs, which are more tubercular upon the last whorl. The specimen may thus be described:—

Ovate, turreted, rather solid, bluish grey, profusely lineated longitudinally and speckled with brown, the markings being crossed or interrupted by numerous transverse fine lines of the ground colour, and also marked irregularly with scattered spots and dots of the same tint, marked outside the labrum with blackish lines which may be single, in pairs, in threes or even in fours, and which terminate upon the edge of the lip in slight tubercular prominences; whorls $5\frac{1}{2}$, whereof the two apical are smooth, rounded, and form the obtuse protoconch; the normal whorls are concave above, eostate, the ribs being obsolete near the suture in the last two and becoming more and more nodose at the angle as the shell increases, being very prominent, acute, and ten in number upon the last. The entire surface is covered with fine spiral striæ and sulci both upon and between the costæ; the aperture is flesh-tinted within, and the columella is of a slightly deeper colour, but marked at the upper end with the characteristic coal-black blotch; the plieæ are five in number, the two uppermost, however, being very faint. The cauda of the body-whorl is prettily marked with fine arched red lines. Length 47, diam. maj. 27 mm.

Another specimen from Durban, in equally fresh condition, submitted to me by Mr. Ponsonby, is a little smaller and has only nine plieæ on the body-whorl. An operculum presumably belonging to it appears to agree very closely with that of *V. musica*.¹ It is thin, horny, narrow, elongate, curved, unguicular, with a terminal nucleus, externally marked with fine strongly arcuate lines of growth. The lower surface is glossy at the nuclear free end and along one side. The part attached to the animal is dull, narrowly ovate, and exhibits a few well-marked periods of growth. In general appearance it resembles the operculum of *Neptunea*, but is narrower and curved to the right instead of to the left. That of *V. musica* is similar in this respect.

¹ Fischer: Journ. de Conch., vol. xxvii (1879), pp. 97-106, pl. v, figs. 1-6.

4. *VOLUTA (LYRIA) QUEKETTI*, n.sp.

Testa ovato-fusiformis, solidiuscula, pallide carnea, rufo maculata, longitudinaliter costata et transversim striata; anfractus sex, duo superiores læves, convexi, cæteri convexiusculi, supra medium subangulati, costis leviter obliquis sensim crassioribus instructi, sutura profunda paulo obliqua sejuncti, ultimus costis crassis 11-12 antice evanidis ornatus, ad basim oblique sulcatus et lirus, antice supra anfract. penultimum breviter ascendens; apertura elongata, angusta, roseo-albida; labrum intus et extus incrassatum, ad marginem acutum; columella quinque-plicata, plicis parvis obliquis, secunda ab extremitate antica, cæteris paulo validiore, supra ad insertionem callo pallido crassiusculo induta. Long. 37, diam. 17 mm.; apertura 24 longa, 6 lata.

*Voluta Queketti*, n.sp.

Hab.—Taken from the stomach of a fish caught in 40 fathoms about ten miles from Durban, Natal (Quekett).

The ground colour of this shell is a pale-yellowish flesh tint. This is varied with bright red blotches upon the upper ends of the costæ, with an irregular interrupted band of the same colour above the middle of the body-whorl and some spots towards the lower part. An interrupted pale line is observable at the middle of the whorl, and two others which are more oblique at the base. How far this coloration may be constant has yet to be shown by the discovery of other specimens.

The species is allied to *V. Delessertiana*, Petit, but is smaller, having one whorl less and stouter and fewer costæ, which become obsolete anteriorly. The characteristic transverse red lines of *V. Delessertiana* are entirely wanting in the present species, and the columellar plaits are only five¹ in number instead of fifteen or more. The spreading callus seen on the columella of the Madagascar shell is absent in that now described. I have named this interesting species after Mr. Quekett, who has done much to further our knowledge of South African Mollusca.

5. *VOLUTA (CALLIPARA) BULLATA*, Swainson.

Voluta bullata, Swainson: Zool. Illust., ser. II, vol. i, pl. xv. Reeve: Conch. Icon., vol. vi, fig. 55. Sowerby: Thes. Conch., vol. i, p. 206, pl. liii, fig. 88. Tryon: Man. Conch., vol. ii, p. 100, pl. xxix, fig. 116 (copy of Sowerby). Chenu: Man. Conch., vol. i, fig. 956 (copy of Reeve).

Hab.—Port Elizabeth (Sowerby); Algoa Bay (Reeve).

Young shells of this species are ornamented with several transverse reddish or brown lines dotted with white.

¹ Faint traces of two additional folds are just observable if the shell be closely examined.

6. VOLUTILITHES ABYSSICOLA, Adams & Reeve.

Voluta abyssicola, Adams & Reeve: Zool. Samarang, Mollusca, p. 25, pl. vii, fig. 6 (young). Reeve: Con. Leon., vol. vi, figs. 58*a*, *b* (young). Sowerby: Thes. Conch., vol. iii, p. 270, pl. 260, fig. 124 (young). Chenu: Man. Conch., vol. i, fig. 980 (young). Tryon: Man. Conch., vol. iv, p. 100, pl. xxix, fig. 120 (young). Watson: Gasteropoda of Challenger Exp., p. 258, pl. xv, fig. 1 (adult). Kobelt: Ill. Conchylienbuch, pl. xxii, fig. 8 (young).

Volutilithes abyssicola, H. & A. Adams: Genera Rec. Moll., vol. iii, pl. xviii, fig. 8 (young). M. F. Woodward: Proc. Malac. Soc., vol. iv, p. 121, pl. x, figs. 4-8, 10, 12 (anatomy).

Hab.—Off Cape of Good Hope, in 98-150 fathoms.

For a full description of the adult shell of this species, Watson's report upon the "Challenger" Gastropoda may be consulted, while for the anatomy, reference should be made to the paper by Mr. M. F. Woodward.

7. NEPTUNEOPSIS GILCHRISTI, Sowerby.

Neptuneopsis Gilchristi, Sowerby: Marine Investigations in S. Africa, 1898, No. 5, pp. 5-7, plate, fig. *a*, shell, *b*, *c*, operculum, *d*, radula. M. F. Woodward: Proc. Malac. Soc., vol. iv, p. 120, pl. x, figs. 2, 3, 11, 13, 14 (anatomy).

Hab.—Off Cape of Good Hope, in 33 fathoms.

This is one of the most interesting discoveries of recent years.

Note.—The three following species have been assigned to South Africa, but their existence in that region seems to be doubtful, or at all events to require confirmation.

1. MELO ARMATA, Lamarck.

Hab.—Cape of Good Hope (Martini, Lamarek, etc.).

2. VOLUTA SCAPHA, Gmelin.

Hab.—Cape of Good Hope (Lamarek, etc.).

3. VOLUTA (LYRIA) MITRÆFORMIS, Lamarck.

Hab.—S. Africa (Tryon).